FIG. 1

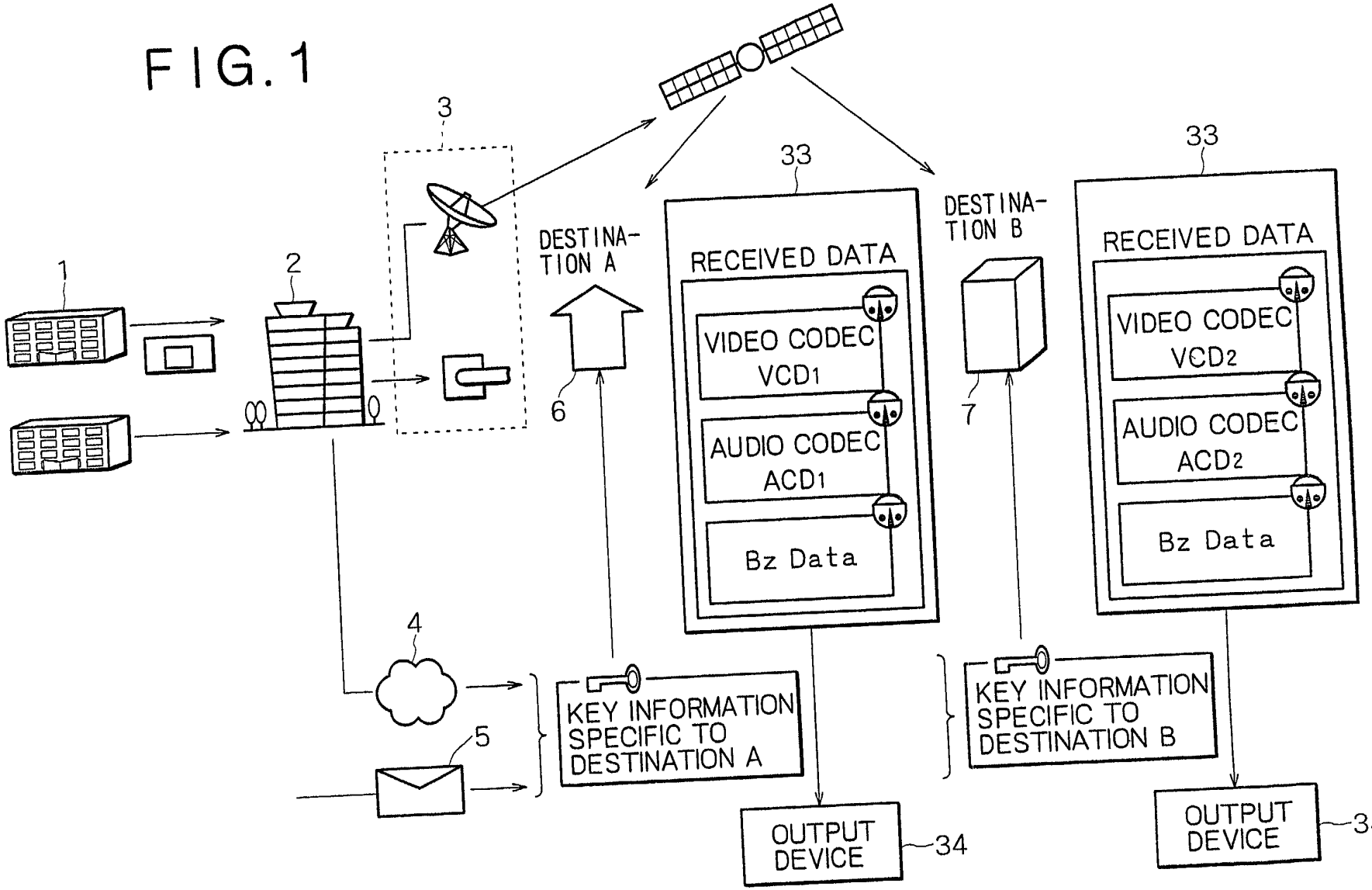
3
33
33
DESTINA-
TION A
DESTINA-
TION B
RECEIVED DATA
RECEIVED DATA
VIDEO CODEC
VCD1
AUDIO CODEC
ACD1
Bz Data
VIDEO CODEC
VCD2
AUDIO CODEC
ACD2
Bz Data
1
2
6
7
4
5
KEY INFORMATION
SPECIFIC TO
DESTINATION A
KEY INFORMATION
SPECIFIC TO
DESTINATION B
OUTPUT
DEVICE
34
OUTPUT
DEVICE
34

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FIG.2

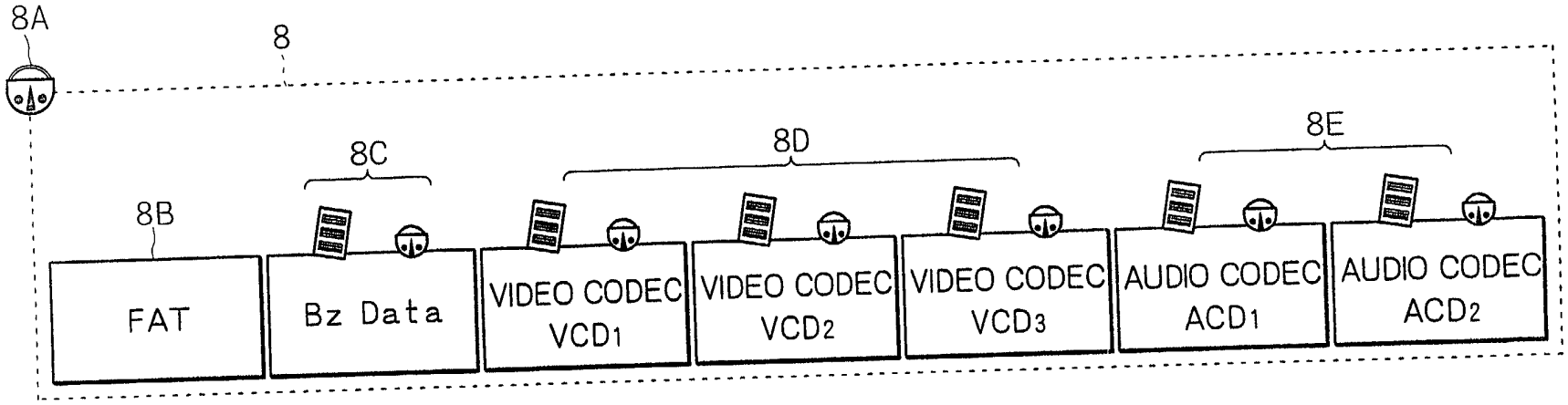

FIG. 3

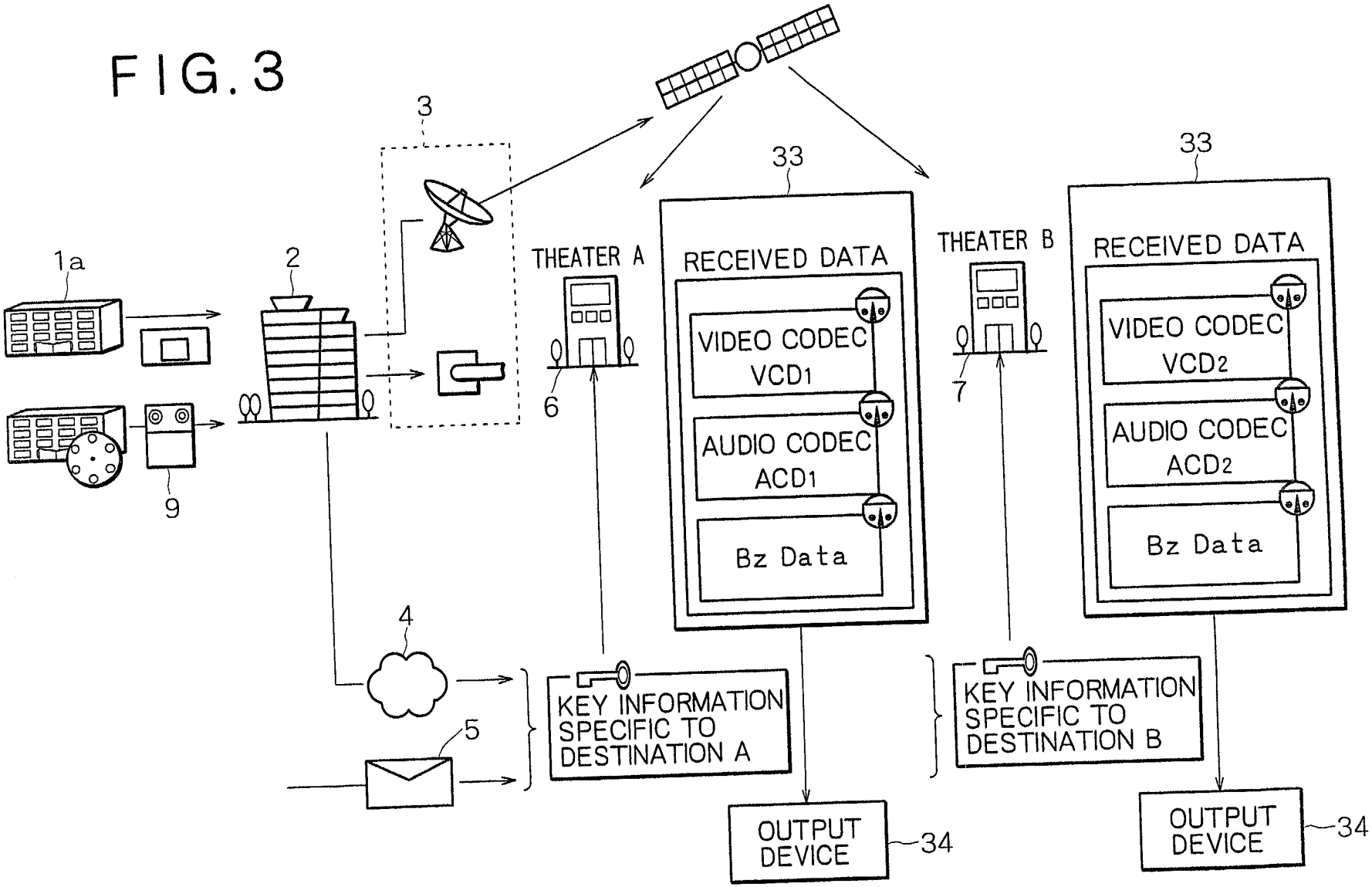
3
33
33
1a
2
THEATER A
RECEIVED DATA
THEATER B
RECEIVED DATA
VIDEO CODEC VCD1
AUDIO CODEC ACD1
Bz Data
VIDEO CODEC VCD2
AUDIO CODEC ACD2
Bz Data
6
7
9
4
5
KEY INFORMATION SPECIFIC TO DESTINATION A
KEY INFORMATION SPECIFIC TO DESTINATION B
OUTPUT DEVICE
34
OUTPUT DEVICE
34

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FIG. 4

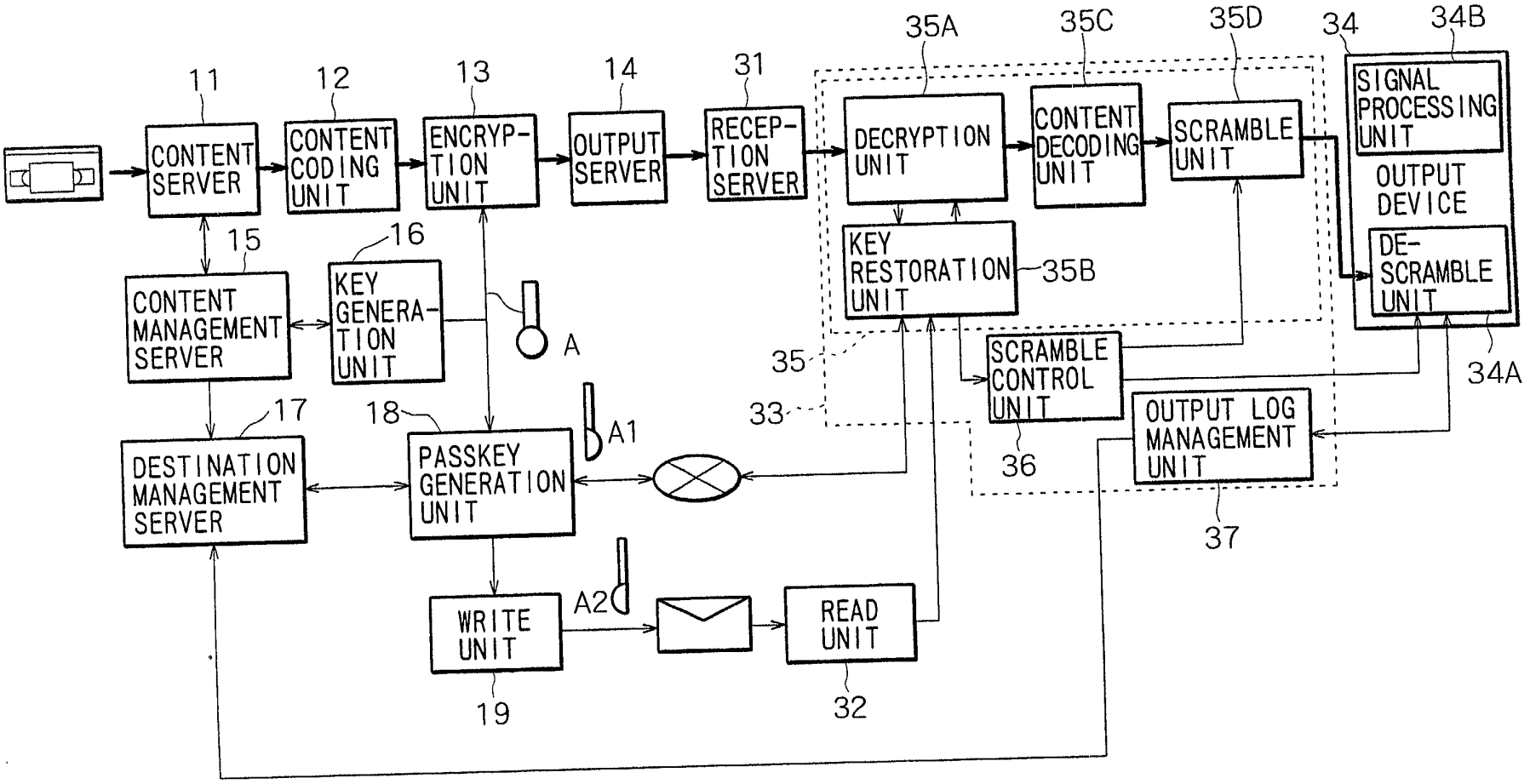

FIG. 5

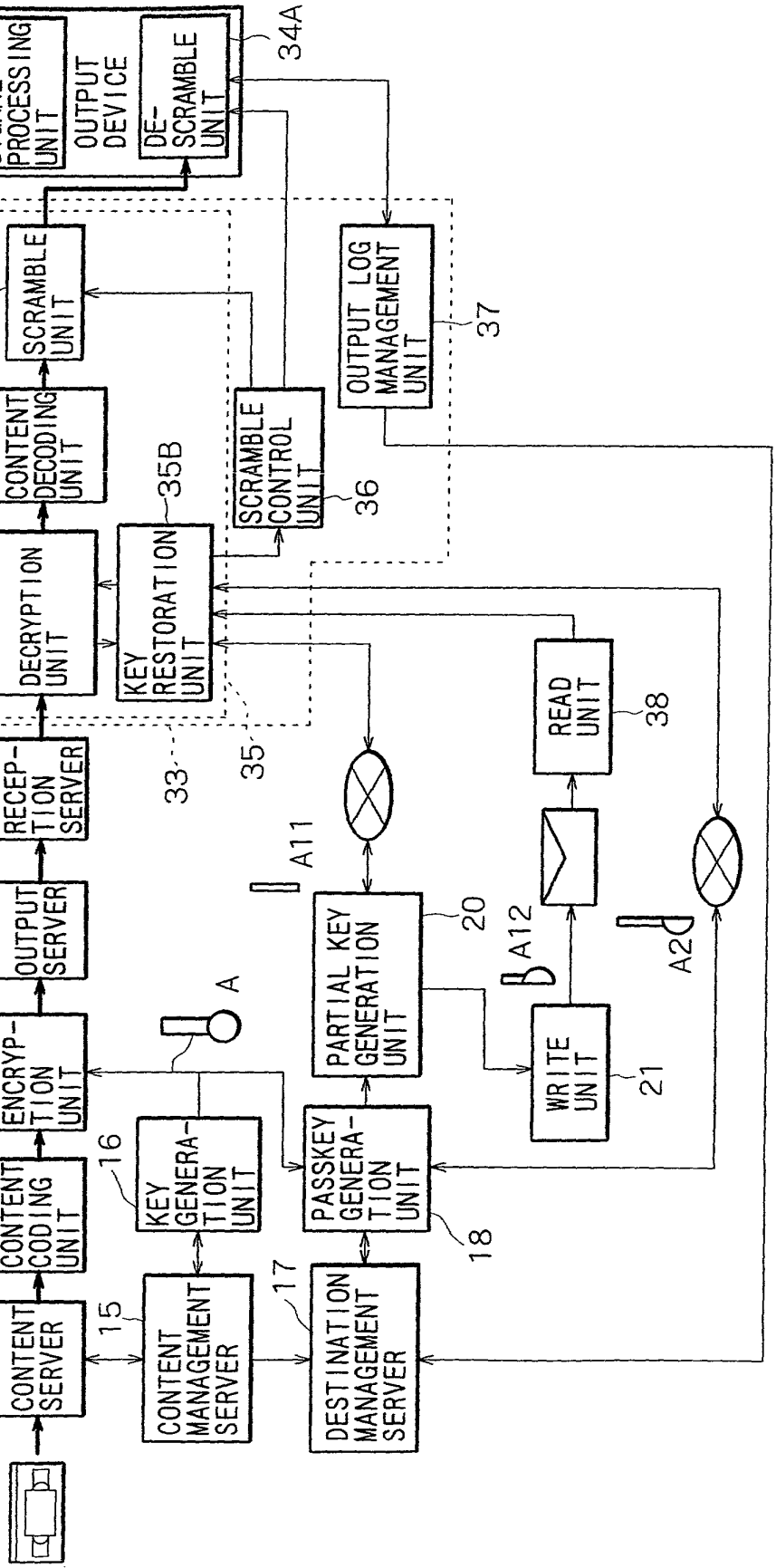
CONTENT SERVER
11
CONTENT CODING UNIT
12
ENCRYPTION UNIT
13
OUTPUT SERVER
14
RECEPTION SERVER
31
CONTENT MANAGEMENT SERVER
15
KEY GENERATION UNIT
16
A
DESTINATION MANAGEMENT SERVER
17
PASSKEY GENERATION UNIT
18
PARTIAL KEY GENERATION UNIT
20
A11
A12
A2
WRITE UNIT
21
READ UNIT
38
33
35
DECRYPTION UNIT
35A
KEY RESTORATION UNIT
35B
CONTENT DECODING UNIT
35C
SCRAMBLE UNIT
35D
SCRAMBLE CONTROL UNIT
36
OUTPUT LOG MANAGEMENT UNIT
37
OUTPUT DEVICE
34
SIGNAL PROCESSING UNIT
34B
DE-SCRAMBLE UNIT
34A

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FIG. 6

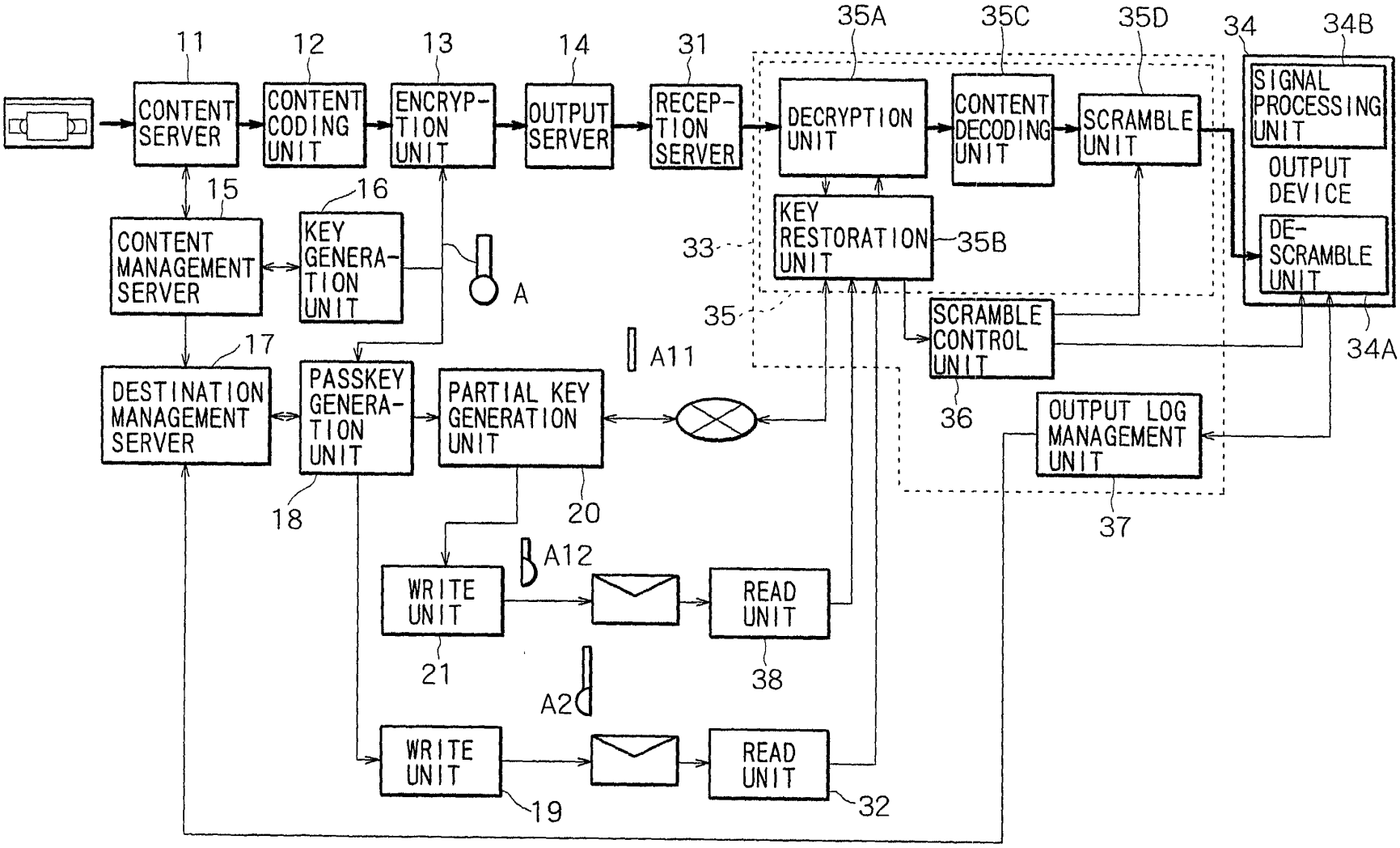

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FIG. 7

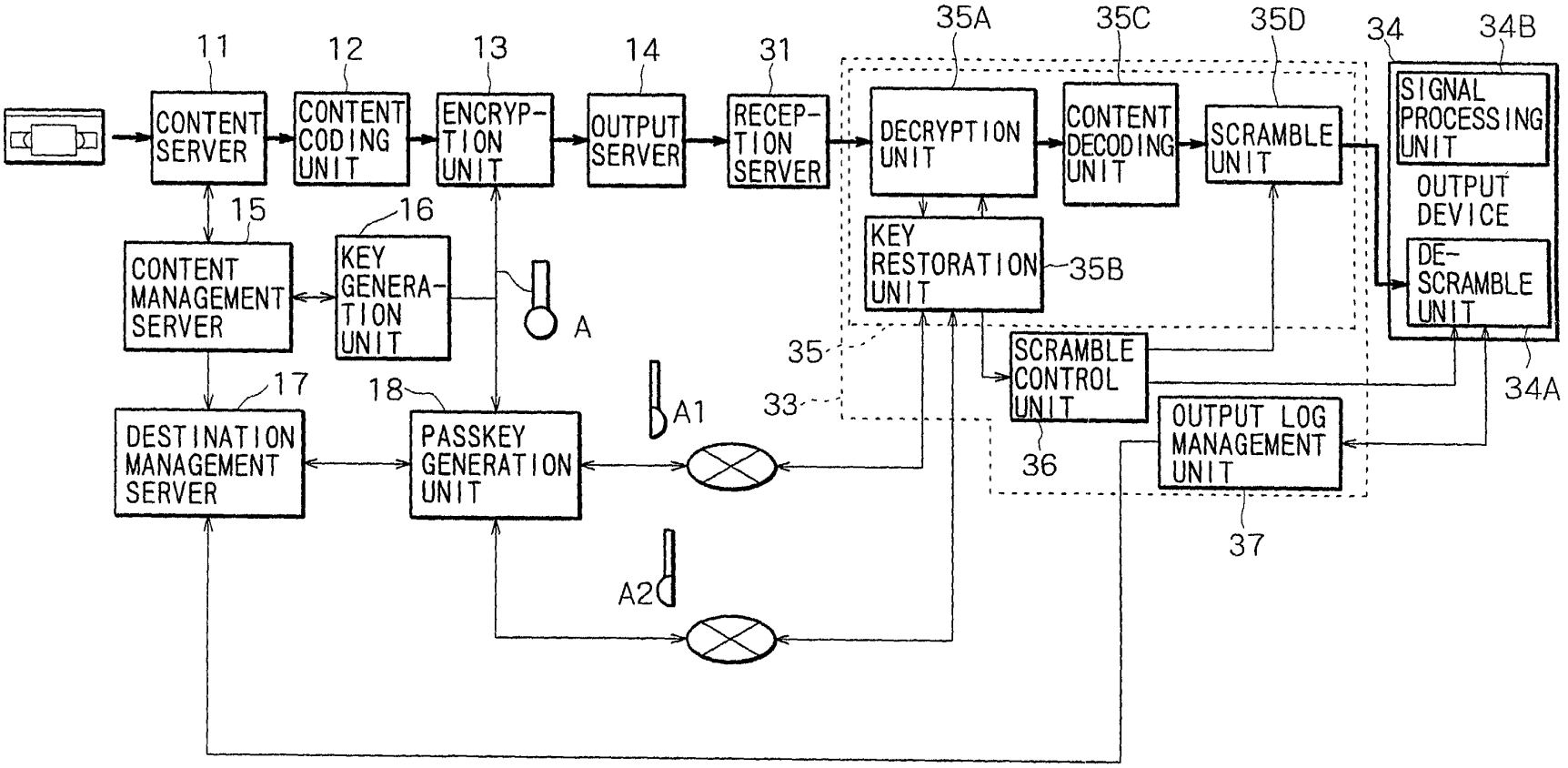

FIG. 8

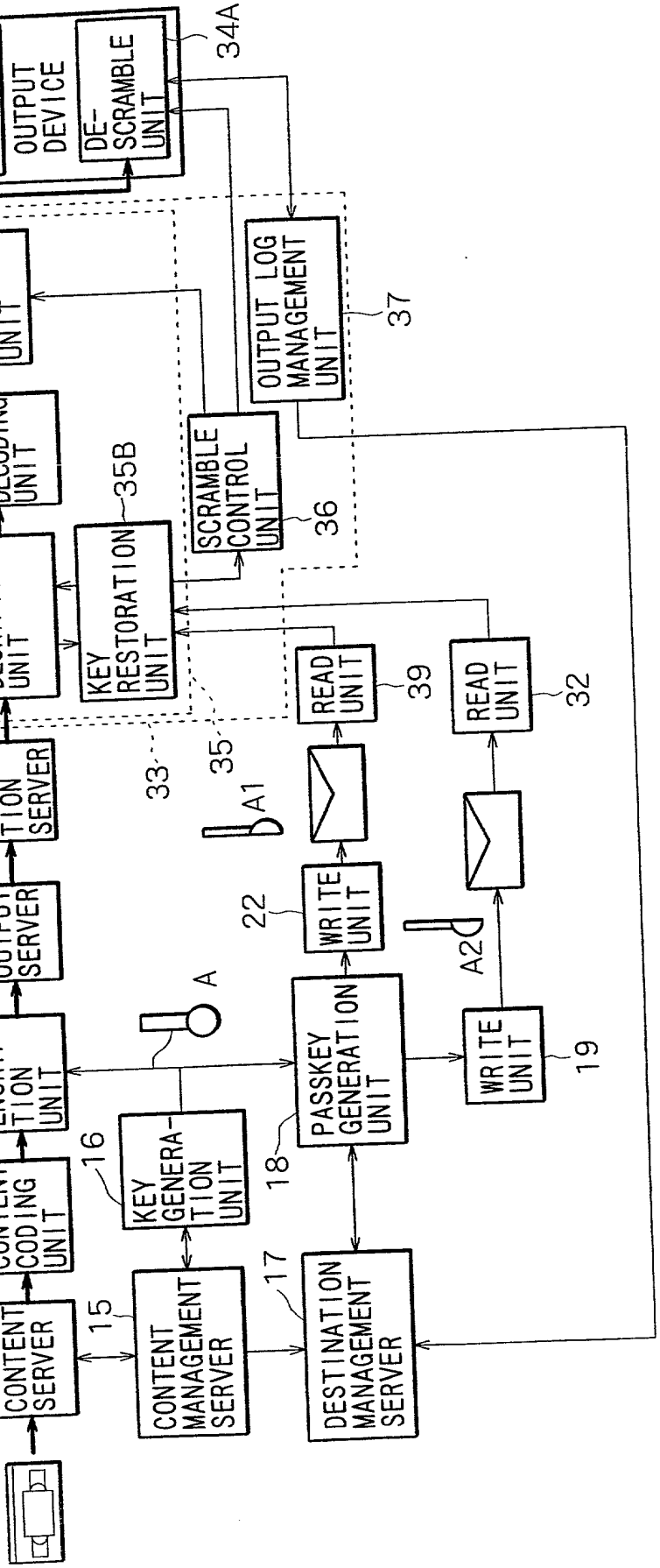
CONTENT SERVER
11
CONTENT CODING UNIT
12
ENCRYPTION UNIT
13
OUTPUT SERVER
14
RECEPTION SERVER
31
CONTENT MANAGEMENT SERVER
15
KEY GENERATION UNIT
16
A
DESTINATION MANAGEMENT SERVER
17
PASSKEY GENERATION UNIT
18
WRITE UNIT
19
WRITE UNIT
22
A2
READ UNIT
32
READ UNIT
39
A1
35
33
DECRYPTION UNIT
35A
KEY RESTORATION UNIT
35B
CONTENT DECODING UNIT
35C
SCRAMBLE UNIT
35D
SCRAMBLE CONTROL UNIT
36
OUTPUT LOG MANAGEMENT UNIT
37
SIGNAL PROCESSING UNIT
34B
OUTPUT DEVICE
34
DE-SCRAMBLE UNIT
34A

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FIG. 9

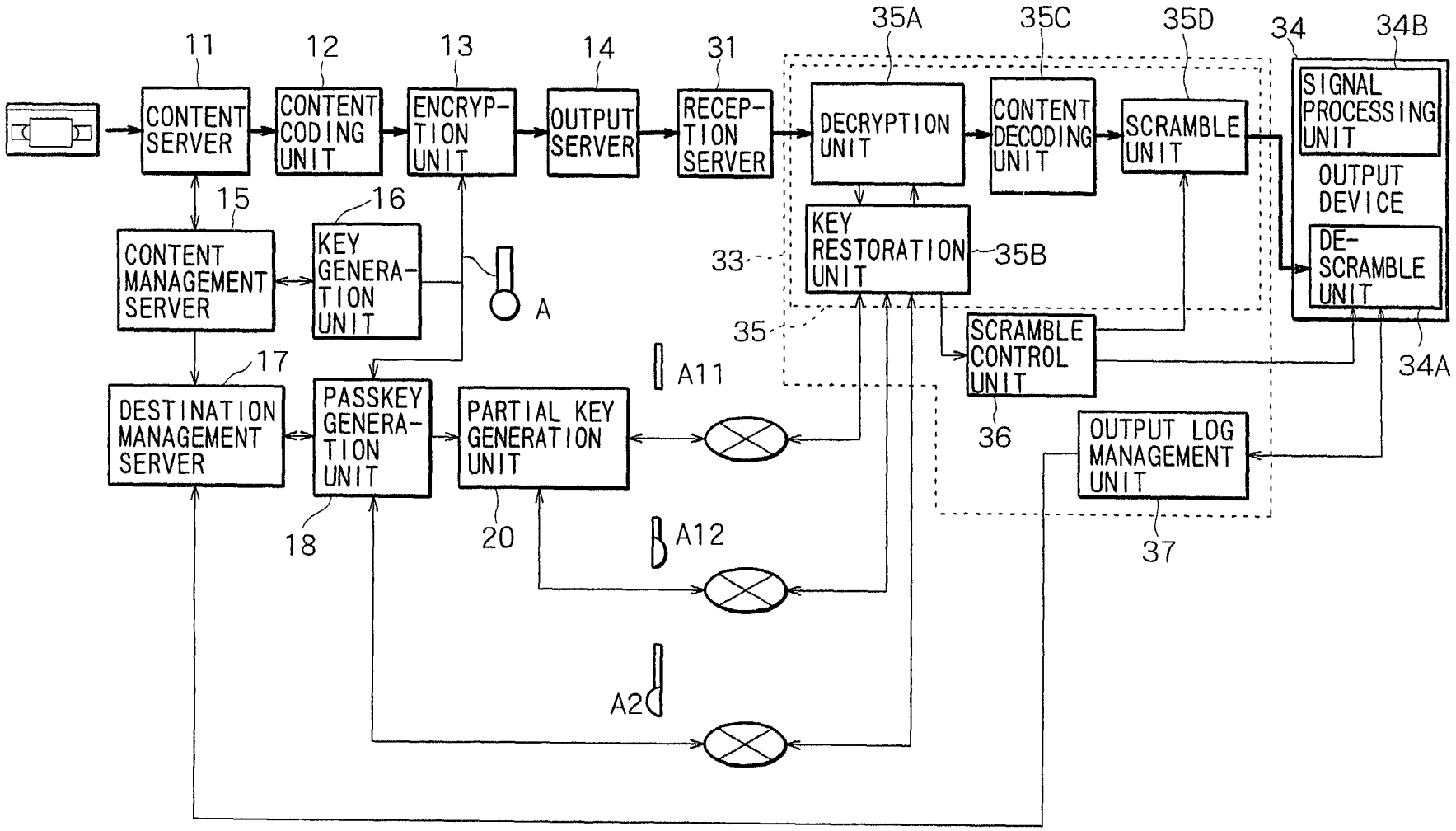

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FIG. 10

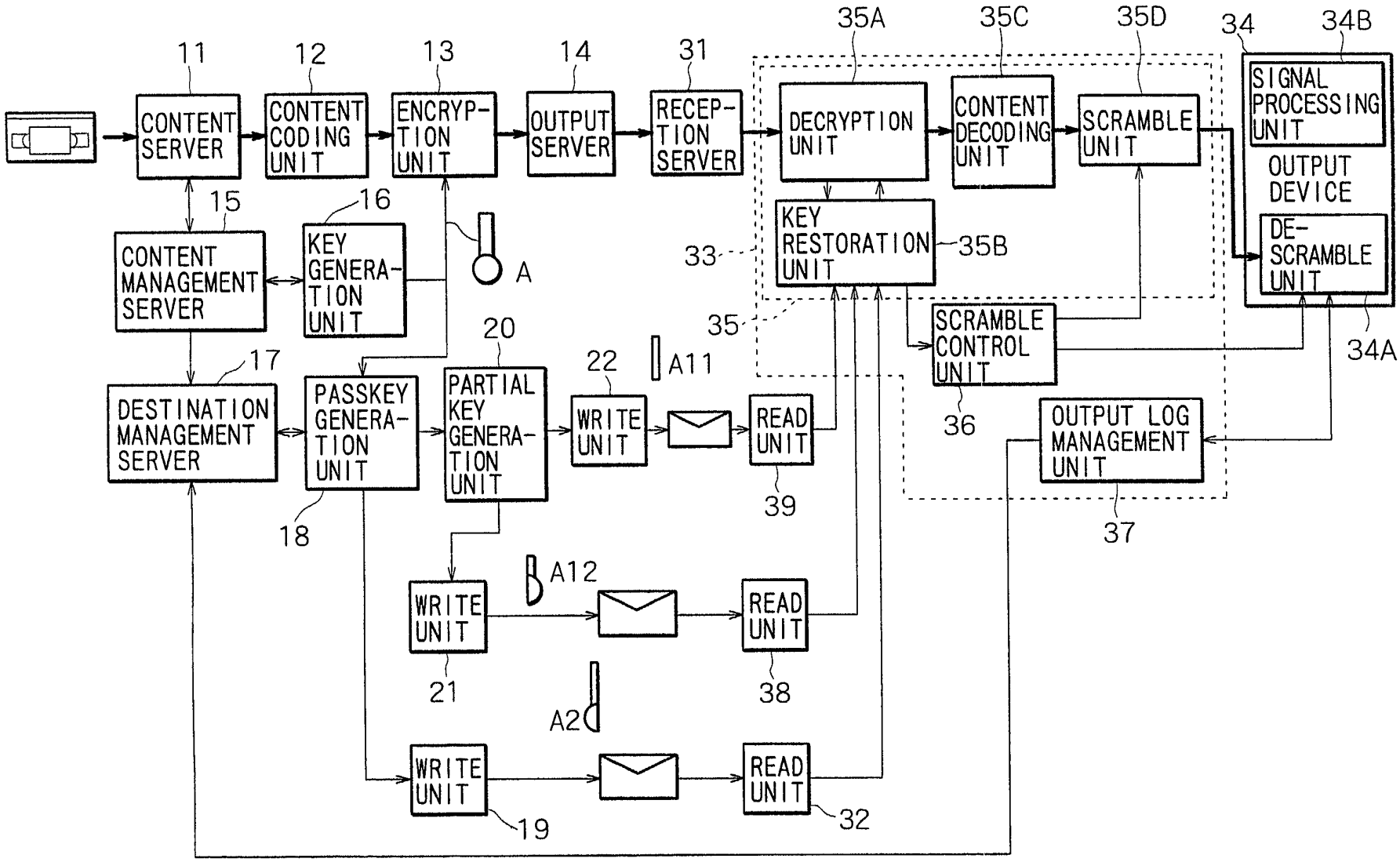
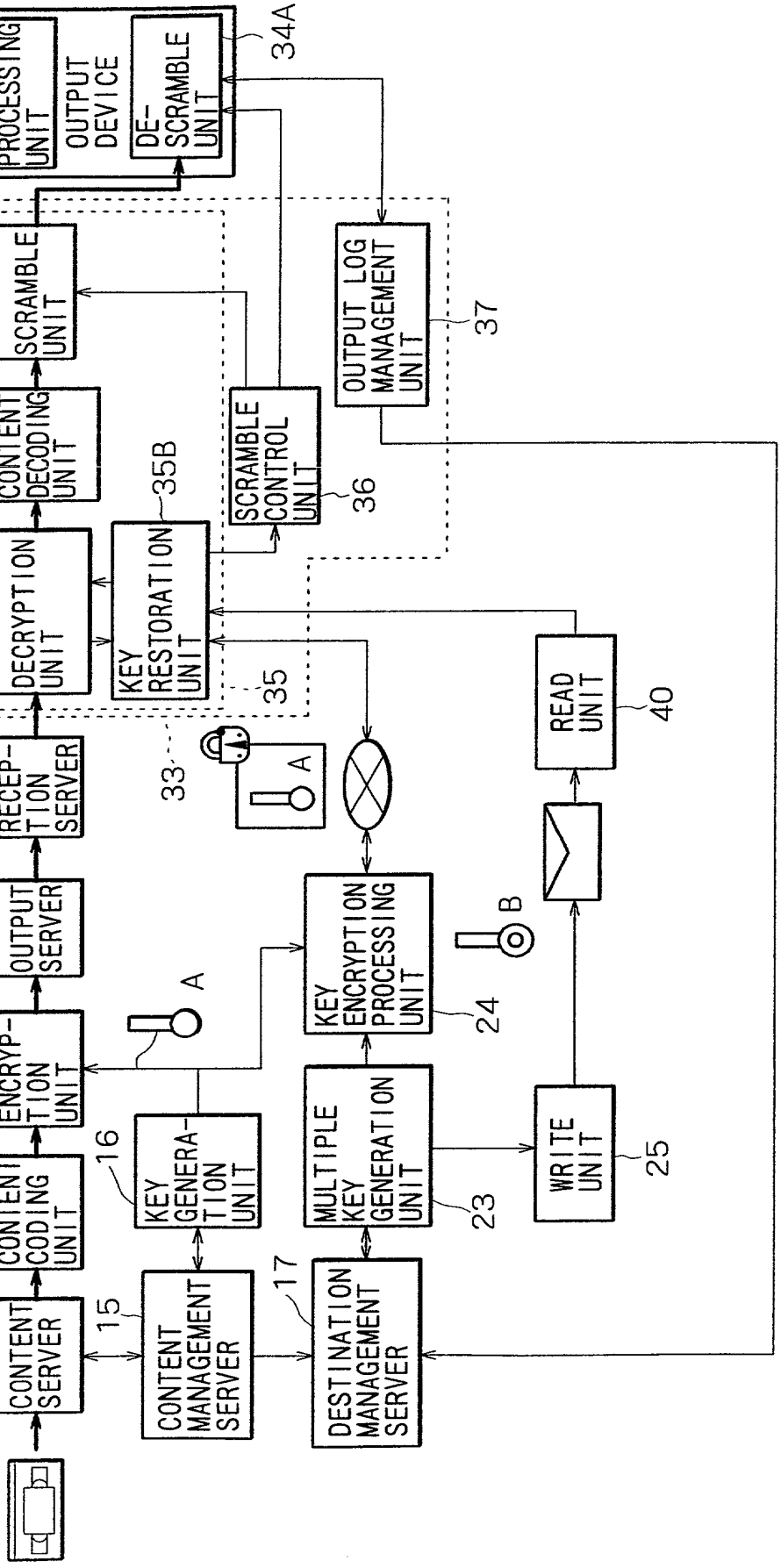


FIG. 11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11
CONTENT CODING UNIT
12
ENCRYPTION UNIT
13
OUTPUT SERVER
14
RECEPTION SERVER
31
CONTENT MANAGEMENT SERVER
15
KEY GENERATION UNIT
16
DESTINATION MANAGEMENT SERVER
17
MULTIPLE KEY GENERATION UNIT
23
KEY ENCRYPTION PROCESSING UNIT
24
WRITE UNIT
25
READ UNIT
40
A
B
33
DECRYPTION UNIT
35A
KEY RESTORATION UNIT
35B
CONTENT DECODING UNIT
35C
SCRAMBLE UNIT
35D
35
SCRAMBLE CONTROL UNIT
36
OUTPUT LOG MANAGEMENT UNIT
37
OUTPUT DEVICE
34
SIGNAL PROCESSING UNIT
34B
DE-SCRAMBLE UNIT
34A

FIG. 12

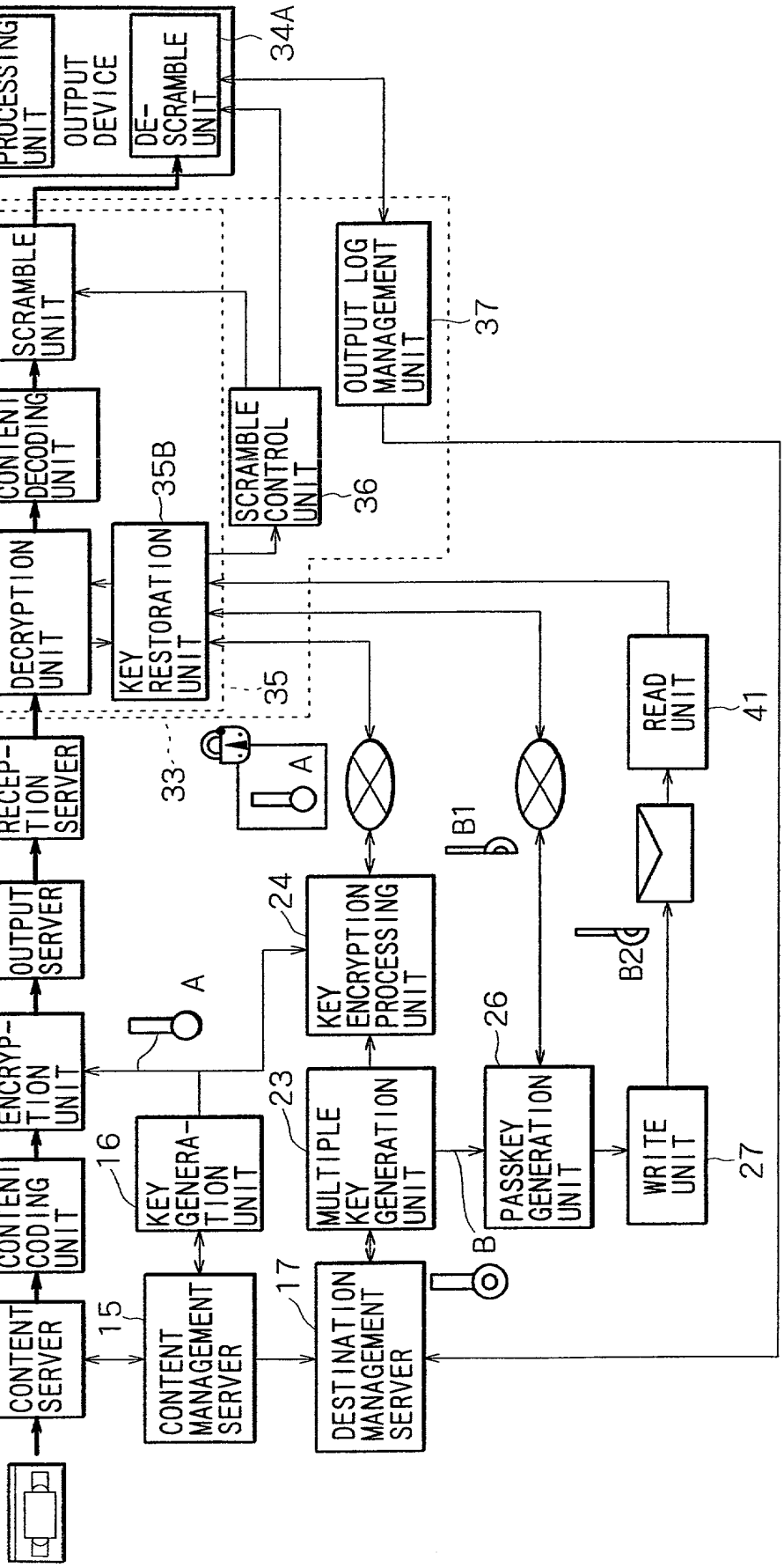
CONTENT SERVER
11
CONTENT CODING UNIT
12
ENCRYPTION UNIT
13
OUTPUT SERVER
14
RECEPTION SERVER
31
CONTENT MANAGEMENT SERVER
15
KEY GENERATION UNIT
16
DESTINATION MANAGEMENT SERVER
17
MULTIPLE KEY GENERATION UNIT
23
KEY ENCRYPTION PROCESSING UNIT
24
PASSKEY GENERATION UNIT
26
WRITE UNIT
27
READ UNIT
41
A
B
B1
B2
33
35
DECRYPTION UNIT
35A
KEY RESTORATION UNIT
35B
CONTENT DECODING UNIT
35C
SCRAMBLE UNIT
35D
SCRAMBLE CONTROL UNIT
36
OUTPUT LOG MANAGEMENT UNIT
37
34
SIGNAL PROCESSING UNIT
34B
OUTPUT DEVICE
DE-SCRAMBLE UNIT
34A

FIG. 13

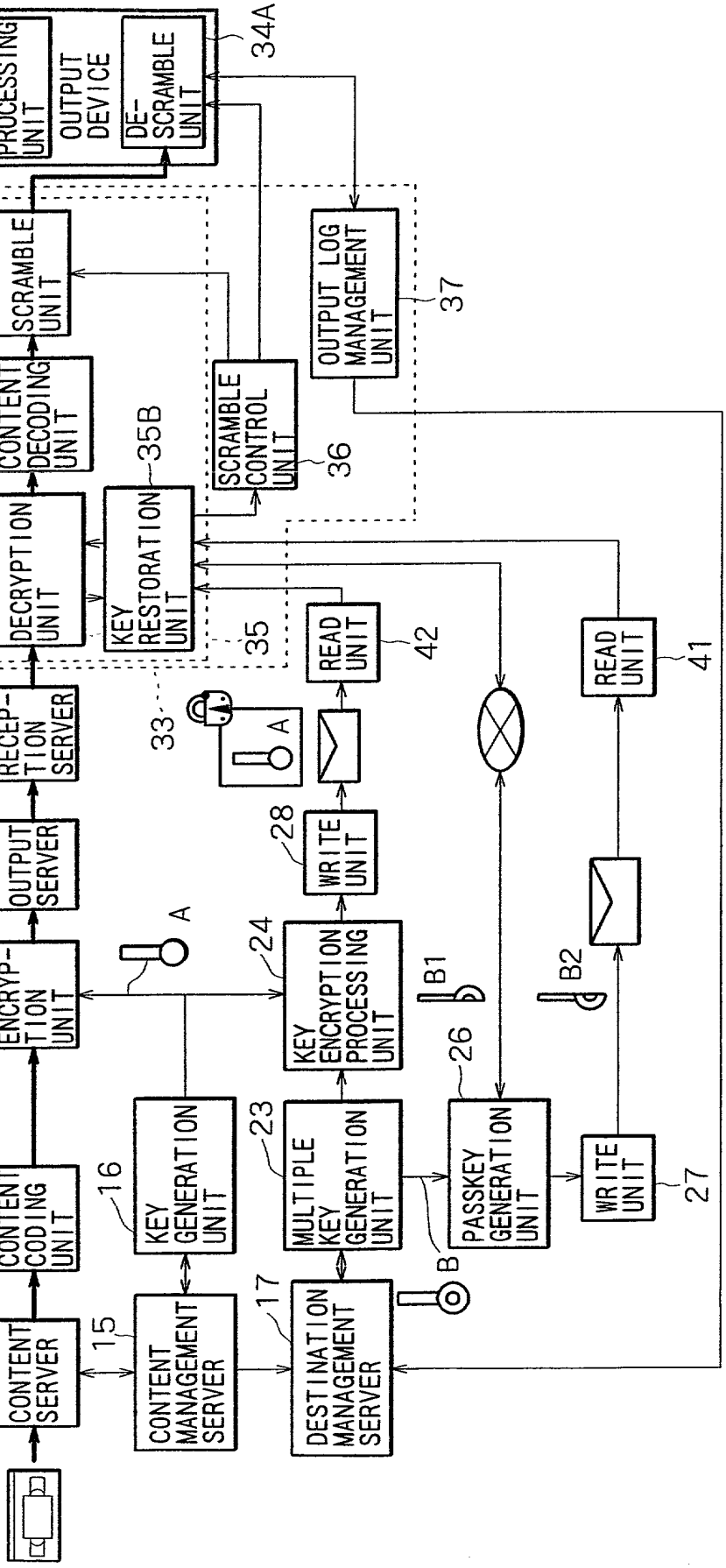
CONTENT SERVER
11
CONTENT CODING UNIT
12
ENCRYPTION UNIT
13
OUTPUT SERVER
14
RECEPTION SERVER
31
CONTENT MANAGEMENT SERVER
15
KEY GENERATION UNIT
16
DESTINATION MANAGEMENT SERVER
17
MULTIPLE KEY GENERATION UNIT
23
KEY ENCRYPTION PROCESSING UNIT
24
PASSKEY GENERATION UNIT
26
WRITE UNIT
27
WRITE UNIT
28
READ UNIT
41
READ UNIT
42
A
B
B1
B2
33
DECRYPTION UNIT
35A
KEY RESTORATION UNIT
35B
CONTENT DECODING UNIT
35C
SCRAMBLE UNIT
35D
35
SCRAMBLE CONTROL UNIT
36
OUTPUT LOG MANAGEMENT UNIT
37
SIGNAL PROCESSING UNIT
34B
OUTPUT DEVICE
34
DE-SCRAMBLE UNIT
34A

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FIG. 14

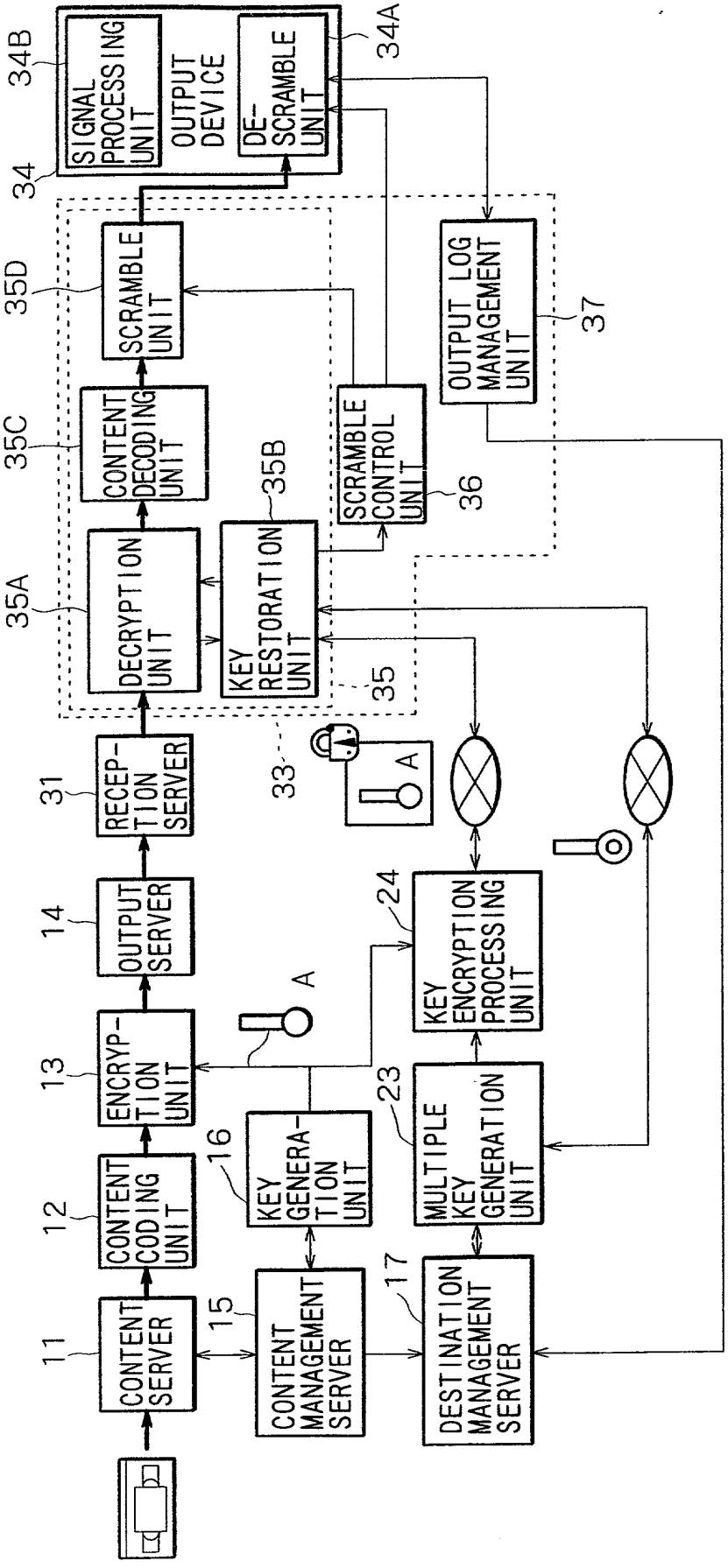

FIG. 15

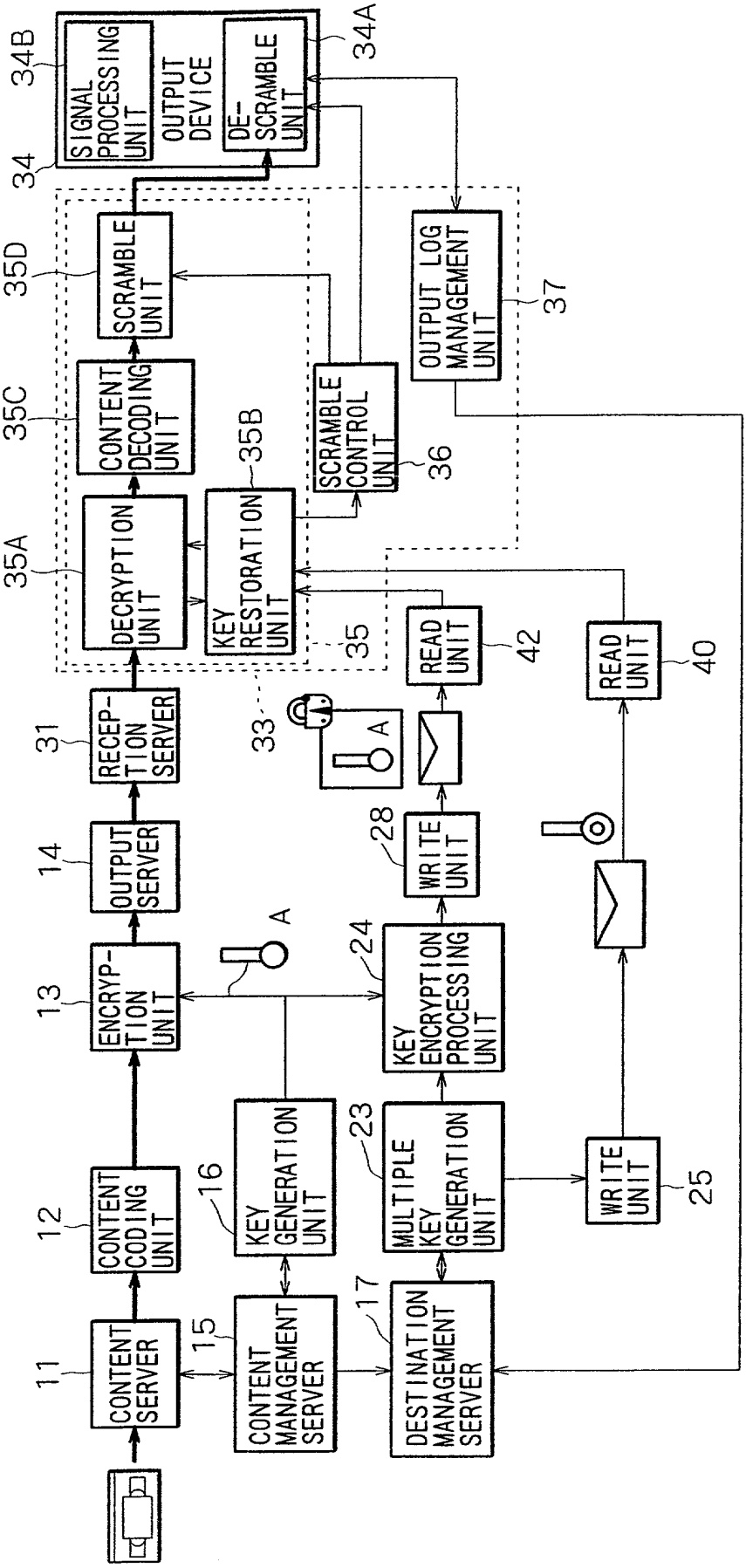
CONTENT SERVER
11
CONTENT CODING UNIT
12
ENCRYPTION UNIT
13
OUTPUT SERVER
14
RECEPTION SERVER
31
CONTENT MANAGEMENT SERVER
15
KEY GENERATION UNIT
16
DESTINATION MANAGEMENT SERVER
17
MULTIPLE KEY GENERATION UNIT
23
KEY ENCRYPTION PROCESSING UNIT
24
WRITE UNIT
25
WRITE UNIT
28
READ UNIT
40
READ UNIT
42
A
A
33
35
DECRYPTION UNIT
35A
KEY RESTORATION UNIT
35B
CONTENT DECODING UNIT
35C
SCRAMBLE UNIT
35D
SCRAMBLE CONTROL UNIT
36
OUTPUT LOG MANAGEMENT UNIT
37
OUTPUT DEVICE
34
SIGNAL PROCESSING UNIT
34B
DE-SCRAMBLE UNIT
34A

FIG. 16

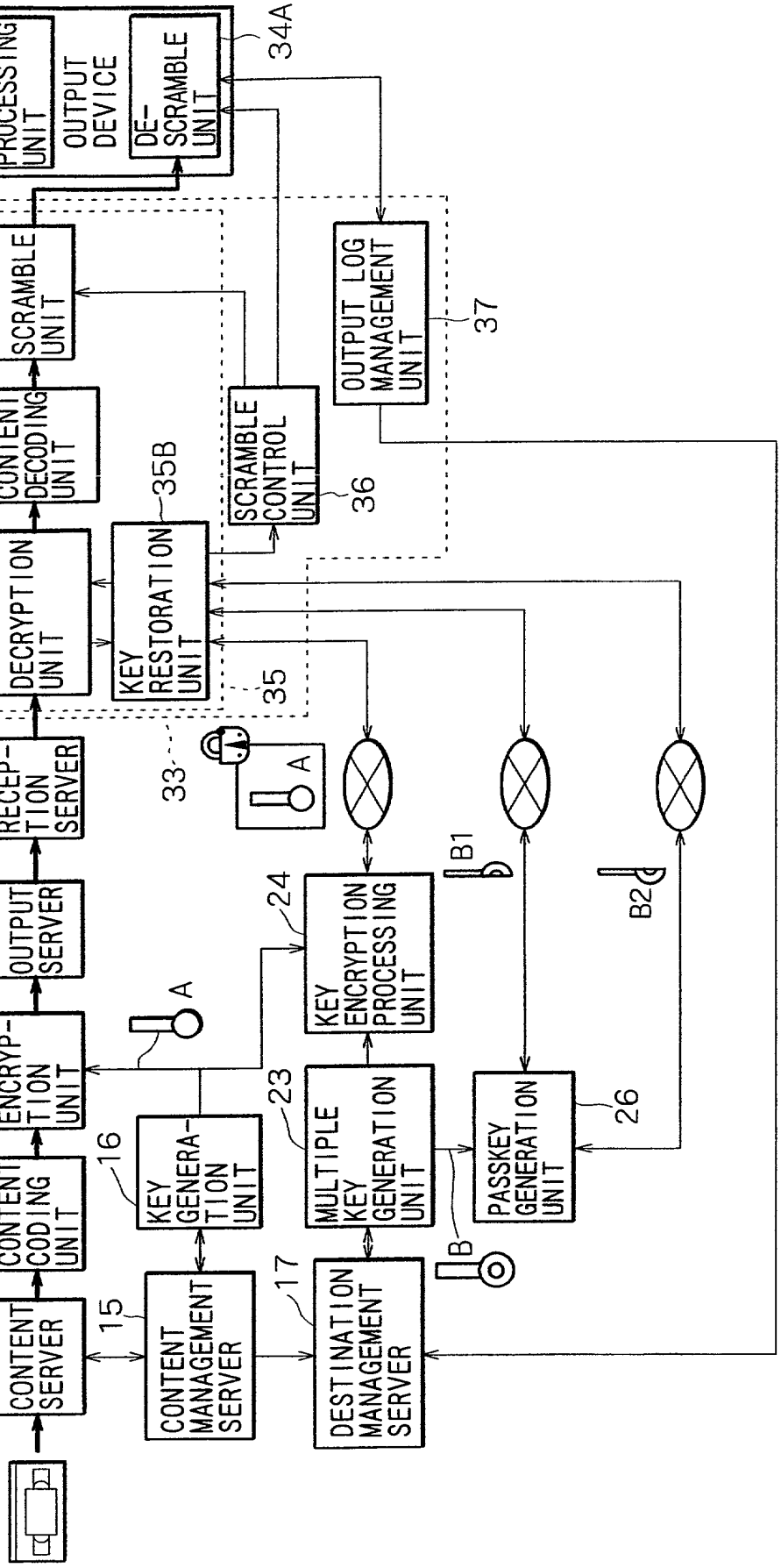
11
CONTENT SERVER
12
CONTENT CODING UNIT
13
ENCRYP-TION UNIT
14
OUTPUT SERVER
31
RECEP-TION SERVER
15
CONTENT MANAGEMENT SERVER
16
KEY GENERA-TION UNIT
17
DESTINATION MANAGEMENT SERVER
23
MULTIPLE KEY GENERATION UNIT
24
KEY ENCRYPTION PROCESSING UNIT
26
PASSKEY GENERATION UNIT
35A
DECRYPTION UNIT
35B
KEY RESTORATION UNIT
35
35C
CONTENT DECODING UNIT
35D
SCRAMBLE UNIT
36
SCRAMBLE CONTROL UNIT
37
OUTPUT LOG MANAGEMENT UNIT
34
OUTPUT DEVICE
34A
DE-SCRAMBLE UNIT
34B
SIGNAL PROCESSING UNIT
33
A
B
B1
B2

FIG. 17

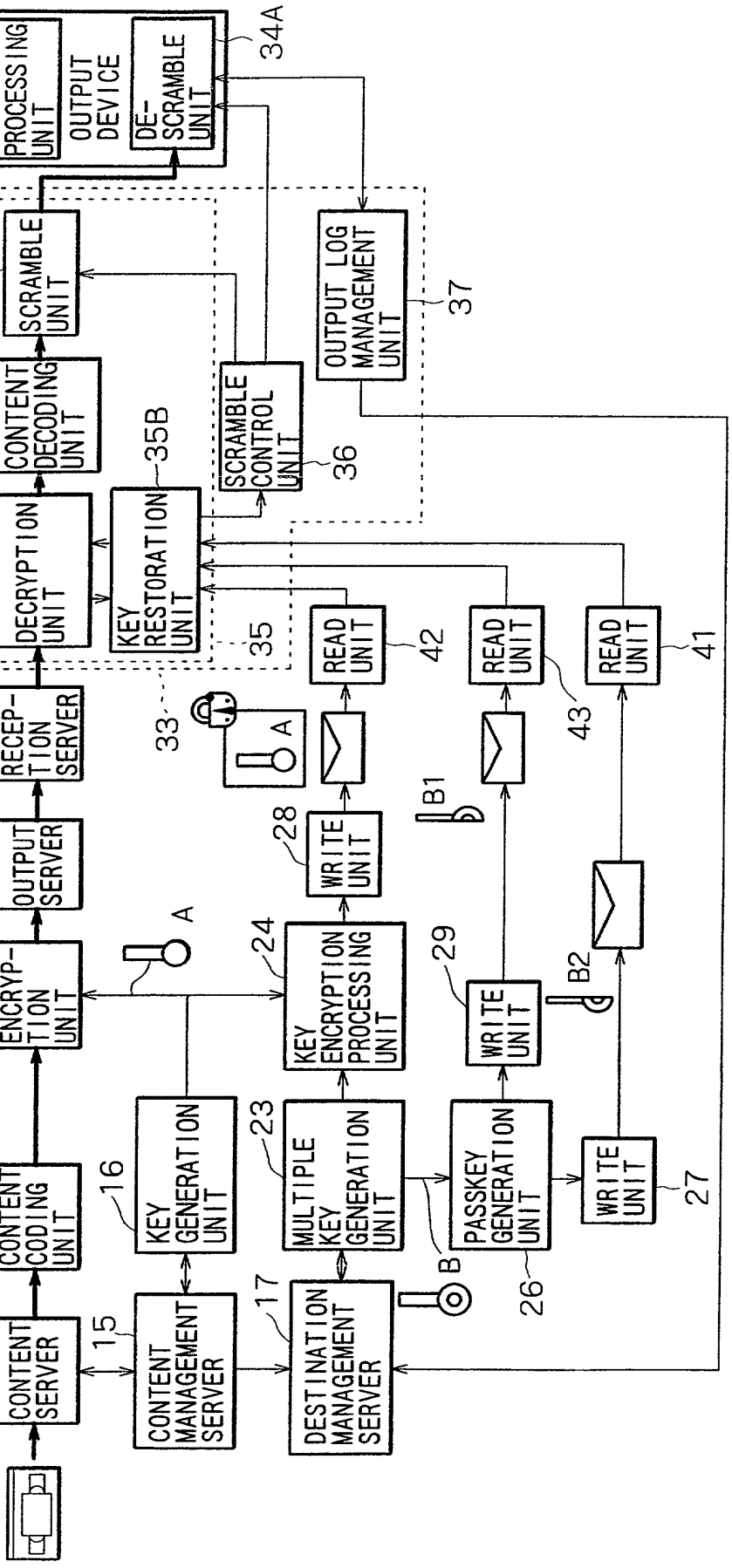
11
CONTENT SERVER
12
CONTENT CODING UNIT
13
ENCRYP-TION UNIT
14
OUTPUT SERVER
15
CONTENT MANAGEMENT SERVER
16
KEY GENERATION UNIT
17
DESTINATION MANAGEMENT SERVER
23
MULTIPLE KEY GENERATION UNIT
24
KEY ENCRYPTION PROCESSING UNIT
26
PASSKEY GENERATION UNIT
27
WRITE UNIT
28
WRITE UNIT
29
WRITE UNIT
31
RECEP-TION SERVER
33
34
OUTPUT DEVICE
34A
DE-SCRAMBLE UNIT
34B
SIGNAL PROCESSING UNIT
35
35A
DECRYPTION UNIT
35B
KEY RESTORATION UNIT
35C
CONTENT DECODING UNIT
35D
SCRAMBLE UNIT
36
SCRAMBLE CONTROL UNIT
37
OUTPUT LOG MANAGEMENT UNIT
41
READ UNIT
42
READ UNIT
43
READ UNIT
A
B
B1
B2

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FIG. 18

	ENCRYPTION KEY GENERATED BY	CONTENT CODED BY	ENCRYPTION DONE BY	KEY INFORMATION DELIVERED BY	SYSTEM SECURITY FROM THE VIEWPOINT OF DISTRIBUTION RIGHT HOLDER	REMARKS
1	PRODUCTION FIRM	PRODUCTION FIRM	PRODUCTION FIRM	PRODUCTION FIRM(2 KEYS)	+++	
2	DO.	DO.	DO.	PRODUCTION FIRM(1 KEY)+ DELIVERY AGENT(1 KEY)	++	DELIVERY AGENT ACQUIRES THE ENCRYPTED ENCRYPTION KEY
3	DO.	DO.	DO.	DELIVERY AGENT(2 KEYS)	++	DELIVERY AGENT ACQUIRES THE ENCRYPTION KEY AND GENERATES KEY INFORMATION ACCORDINGLY
4	DO.	DO.	DELIVERY AGENT	PRODUCTION FIRM(2 KEYS)	++	THE ENCRYPTION KEY IS SENT TO DELIVERY AGENT
5	DO.	DO.	DO.	PRODUCTION FIRM(1 KEY)+ DELIVERY AGENT(1 KEY)	++	DO.
6	DO.	DO.	DO.	DELIVERY AGENT(2 KEYS)	++	DO.
7	DO.	DELIVERY AGENT	DO.	PRODUCTION FIRM(2 KEYS)	++	DO.
8	DO.	DO.	DO.	PRODUCTION FIRM(1 KEY)+ DELIVERY AGENT(1 KEY)	++	DO.
9	DO.	DO.	DO.	DELIVERY AGENT(2 KEYS)	++	DO.
10	DELIVERY AGENT	PRODUCTION FIRM	PRODUCTION FIRM	PRODUCTION FIRM(2 KEYS)	+	PRODUCTION FIRM ACQUIRES THE ENCRYPTION KEY AND GENERATES KEY INFORMATION ACCORDINGLY
11	DO.	DO.	DO.	PRODUCTION FIRM(1 KEY)+ DELIVERY AGENT(1 KEY)	+	DO.
12	DO.	DO.	DO.	DELIVERY AGENT(2 KEYS)	+	DO.
13	DO.	DO.	DELIVERY AGENT	PRODUCTION FIRM(2 KEYS)	+	DO.
14	DO.	DO.	DO.	PRODUCTION FIRM(1 KEY)+ DELIVERY AGENT(1 KEY)	+	DO.
15	DO.	DO.	DO.	DELIVERY AGENT(2 KEYS)	+	DO.
16	DO.	DELIVERY AGENT	DO.	PRODUCTION FIRM(2 KEYS)	+	DO.
17	DO.	DO.	DO.	PRODUCTION FIRM(1 KEY)+ DELIVERY AGENT(1 KEY)	+	DO.
18	DO.	DO.	DO.	DELIVERY AGENT(2 KEYS)	+	DO.